



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
ONE CONGRESS STREET SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

March 26, 2007

Arleen O'Donnell, Commissioner
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108

Re: Review and Action on Water Quality Standards Revisions

Dear Commissioner O'Donnell:

By letter of January 12, 2007, the Massachusetts Department of Environmental Protection (DEP) submitted revisions to its Surface Water Quality Standards Regulations to the Environmental Protection Agency (EPA) for review. The revisions were adopted and effective on December 29, 2006, and were certified by DEP's General Counsel on January 11, 2007 as having been duly adopted pursuant to state law. EPA has completed its review of the site-specific acute and chronic copper criteria for the protection of aquatic life that were adopted for 23 freshwater stream segments as further described below.

Pursuant to Section 303(c)(3) of the Clean Water Act (CWA) and 40 CFR Part 131, I hereby approve the site-specific copper criteria in 314 CMR 4.06(7) Table 28.

EPA's approval of the Massachusetts surface water quality standards revisions does not extend to waters that are within Indian territories and lands. EPA is taking no action to approve or disapprove the State's revisions with respect to those waters at this time. EPA will retain responsibility under Sections 303(c) and 303(d) of the Clean Water Act for those waters.

We are still reviewing the additional revisions submitted by DEP. Therefore we are not taking action with respect to those revisions at this time. The water quality standards regulation at 40 C.F.R. § 131.6 outlines the minimum elements to be included in a State's submittal of water quality standards for EPA review. Information supporting revisions to the standards is one of those elements. EPA will contact your staff if further information is needed to complete our review.

Supporting Discussion of Approval

DEP adopted site-specific freshwater acute and chronic dissolved copper criteria of 25.7 ug/l and 18.1 ug/l, respectively, based on a water effect ratio of 2.92 applied to EPA's CWA Section 304(a) criteria at a hardness of 50 mg/l. The site-specific criteria were adopted for 23 waterbody segments determined by DEP to have an instream flow

comprised of 20 percent or greater treated municipal wastewater at instream low flow design conditions, as confirmed by DEP in its January 12, 2007 submittal letter and response to EPA's comments.

The criteria values adopted by DEP are those adopted by the State of Connecticut on April 8, 1997, for specific waterbodies with an instream flow comprised of 20 percent or greater treated municipal wastewater at instream low flow design conditions, based on Water Effect Ratios (WERs) it generated for relatively unimpaired reference sites across Connecticut. Connecticut's work generally followed EPA's WER procedure, "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals," USEPA, February 1994, which is intended to yield site-specific criteria that provide the same level of protection as intended by EPA's national criteria guidance. The procedure can be used to account for local physical and chemical water quality characteristics that EPA recognizes as influencing the toxicity of a metal, making it more or less toxic than predicted by the national CWA Section 304(a) criteria guidance.

After review of the supporting documentation Connecticut submitted by letters of April 12, 1996 and May 28, 1997, including "Derivation of a Site-Specific Dissolved Copper Criteria for Selected Freshwater Streams in Connecticut," EPA approved Connecticut's adoption of the site-specific criteria on October 20, 1997. Connecticut's analysis indicated criteria based on the reference site WERs were expected to provide conservative protection of designated aquatic life uses when applied to the waters that contained treated municipal wastewater.

In utilizing Connecticut's work, the Massachusetts DEP documented that the general water chemistry where it adopted the criteria is consistent with the water chemistry of Connecticut's waters where the site-specific criteria were applied ("Protocol for and Determination of Site Specific Copper Criteria for Ambient Waters in Massachusetts" submitted to EPA by electronic mail on April 11, 2005, and January 12, 2007 response to EPA's comments). With consideration of Connecticut's analysis and the Massachusetts DEP's documentation supporting the transfer of Connecticut's work to select waters of Massachusetts, EPA's approval is based on a determination that the site-specific criteria will be protective of designated aquatic life uses for the reasons stated in EPA's WER guidance.

We look forward to continued cooperation with Massachusetts in the development, review, and approval of water quality standards pursuant to our responsibilities under the Clean Water Act. Please contact me or either Bill Beckwith (617-918-1544) or Mike Hill (617-918-1398) of my staff if you have any questions.

Sincerely,



Stephen S. Perkins, Director
Office of Ecosystem Protection

cc: Glenn Haas, DEP
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